

INTRODUCTION

- A strong oral hygiene program is something that is recommended for all neurotypical children to ensure strong preventive techniques and limit the risk for development of caries, infection, or periodontal problems.
- Children with Autism Spectrum Disorder (ASD) struggle to maintain proper oral hygiene at home. These preventive techniques are much more urgent in children with ASD, as they are typically more sensitive to touch, sounds, smells, and new experiences, which may increase the patient anxiety and stress levels.
- High levels of visible plaque is correlated with poor oral hygiene and increased risk of caries development.
- Behavior analysts and clinicians utilize the various ABA techniques to successfully modify socially significant behaviors of people with ASD.
- Systematic use with desensitization visits by a trained provider has improved the tolerance of patients with ASD in office dental procedures such as prophylaxis, sealant placement, and obtaining radiographs.
- Visual schedules include a visual model used with these patients to show how to accomplish a task; many times, the visual cue stimulates the desired behavior.
- By utilizing the at home task strip, it will show improved oral hygiene routine and thus fewer caries, reduced dental anxiety, and less parental stress.

OBJECTIVES

The purpose of this continuation research study is to measure parent satisfaction with the utilization of task strips in children who have been diagnosed with autism spectrum disorder (ASD) and have poor at oral hygiene over a period of two months. The study will evaluate aspects of parental satisfaction from overall hygiene instructions and care, initial implementation, ease of use, and perceived child behavioral response to oral hygiene.

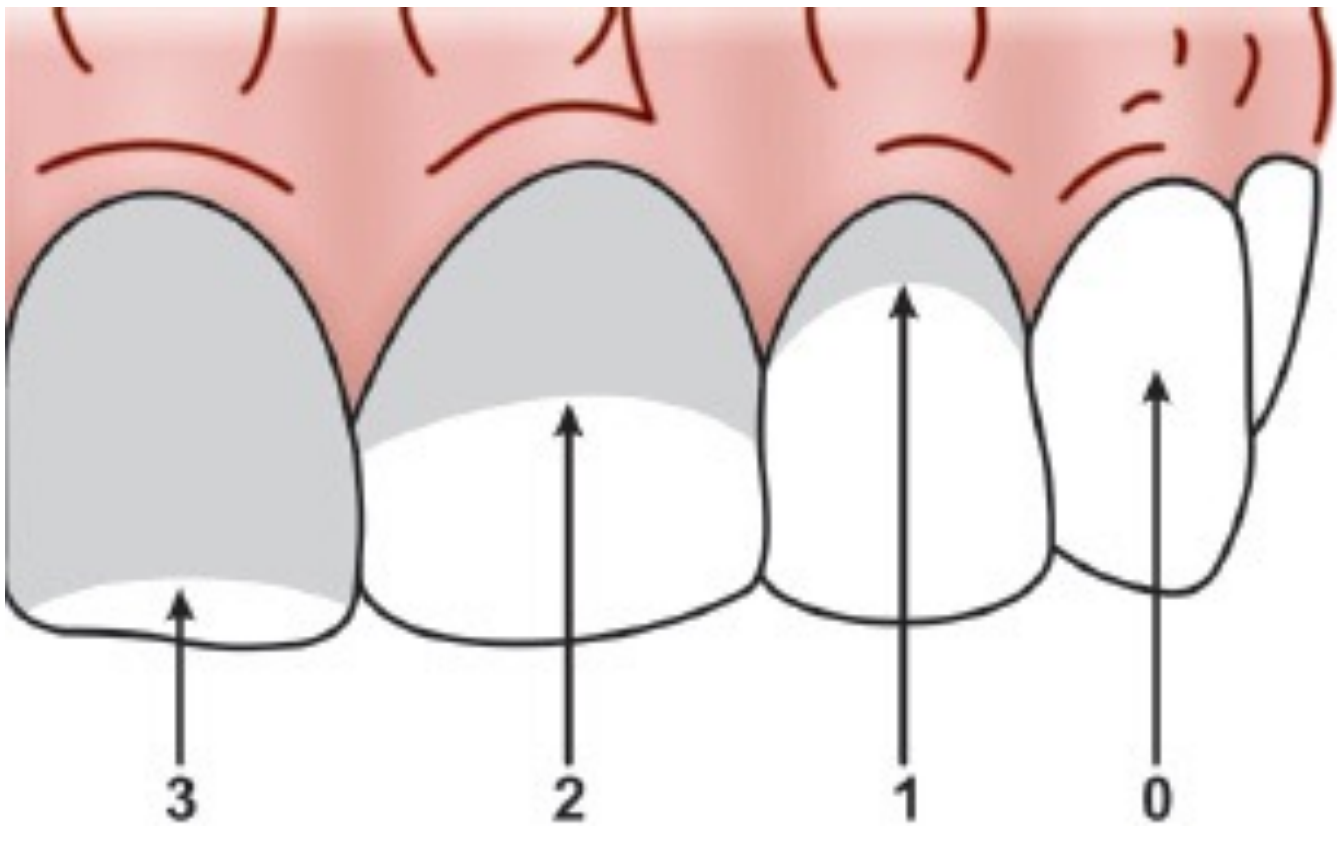
METHODS

- Parents (N=41) of children with ASD being treated at MSC were evaluated for the level of plaque.
- Patient's with a moderate/high level of plaque as quantified by a value of 2 or higher according to the Silness and Loe plaque index, will be invited to participate in the collaborative study. If accepted, the participants will be enrolled in a yoke research control design.
- Baseline plaque score will be recorded on the study subject using Silness and Loe plaque index on teeth # A, E, J, K, P, T (or on teeth # 3,8,14,19, 25, 30, if present).
- At the time of obtaining consent; a parent/caretaker survey will be provided regarding oral hygiene and parental/patient attitudes to dental care.
- The parent will be educated by the behavioral therapist on how to implement the at home task strip, and will record brushing on the at home compliance form.
- The study will run for 60 days, with the parent/caretaker returning with the patient for their monthly desensitization visits as part of the MSC clinic protocol. At this time, plaque scores will be evaluated and a follow-up questionnaire will be given to parents at the end of each visit, to evaluate progress throughout treatment.
- Survey responses will be placed on a Likert scale for statistical analysis.

MATERIALS

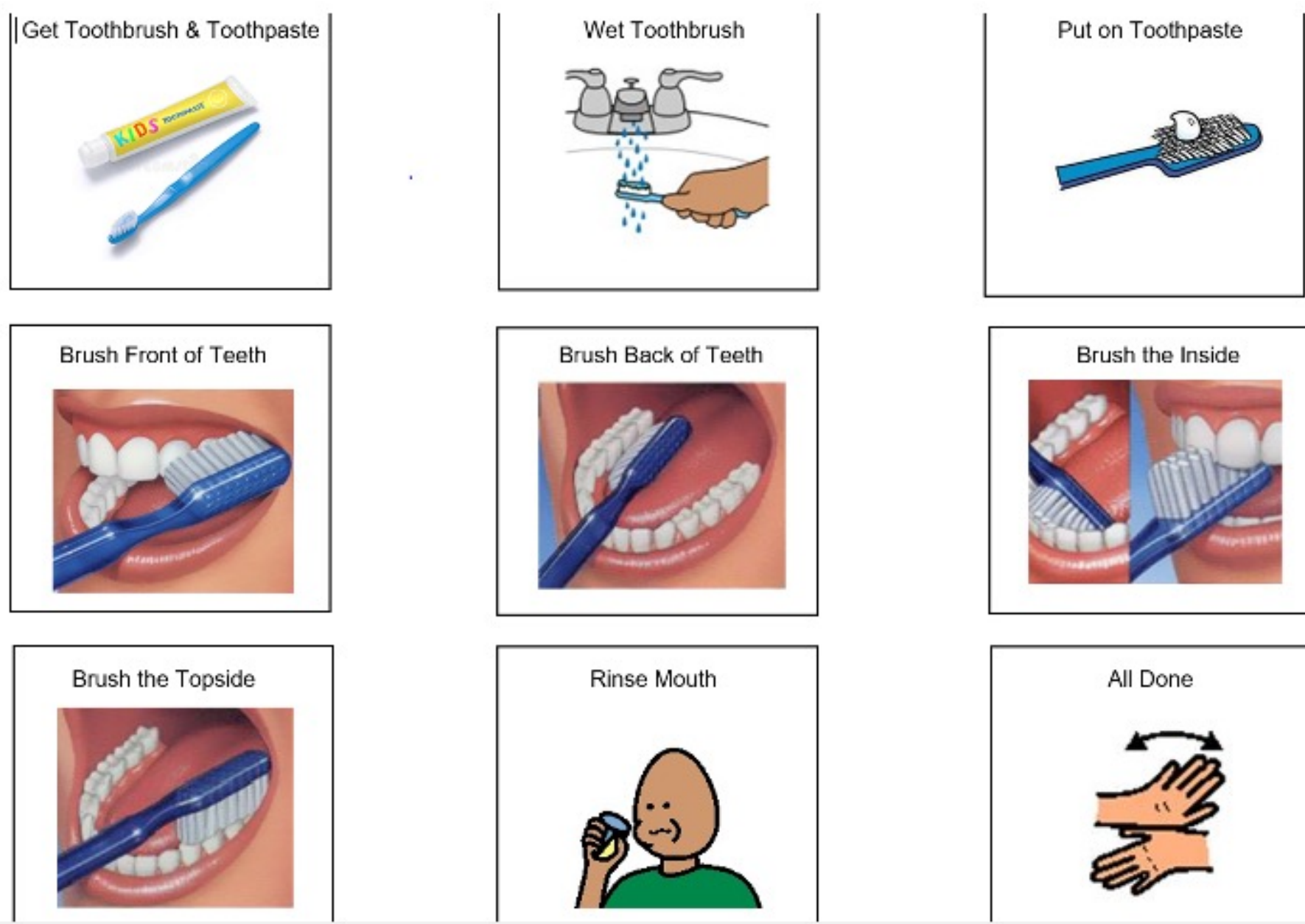
The Silness and Loe Plaque Grade System

- Grade 0: No Plaque
- Grade 1: A film of plaque adhering to the free gingival margin and adjacent area of the tooth. The plaque may be seen in only after application of disclosing solution or by using the probe on the tooth surface
- Grade 2: Moderate accumulation of soft deposits withing the gingival pocket or tooth and gingival margin which can be seen with the naked eye.
- Grade 3: Abundance of soft matter within the gingival pocket and/or on the tooth and gingival margin



Visual Task Strip used in the study

The series of pictures will guide the children at home to perform the brushing method



Brushing Checklist

Parent was given new form at follow-up visit.

	Week 1	Week 2	Week 3	Week 4	Week 5
Monday					
Tuesday					
Wednesday					
Thursday					
Friday					
Saturday					
Sunday					

SURVEYS

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Parent questionnaire at the time of obtaining consent (Form 1)

- Parent/Caretaker Age: 16-24 25-34 35-44 45-54 55+
- Patient Age: 2 3 4 5 6 7 8
- Parent/Caretaker Gender: M/F
- Patient Gender: M/F
- Ethnicity: Hispanic/Latino Not Hispanic/Latino Unknown/ Not reported
- Race: American Indian/Alaskan Native Asian Native Hawaiian/Native Pacific Island Black/African American White More than one Race Unknown/ Not reported.
- Highest Level of Education Completed by the Parent/Caretaker: High School/GED Associates of Arts (AA) Bachelors (BS/BA) Masters(M.A/MBA) Doctorate (PHD/MD/DMD/JD)
- How often do you (Parent/Caretaker) brush per day? 0 1 2 3 4+
- Do you (Parent/Caretaker) floss daily? Yes/No
- How often does your child brush per day? 0 1 2 3 4+
- Does your child floss daily? Yes/No
- How satisfied are you with your child's oral health care habits: Very Satisfied Satisfied Neutral Dissatisfied Very Dissatisfied
- Rate your child's behavior during home brushing routine. Very Poor (Resists brushing and doesn't like to brush) Poor Fair(resists brushing at times) Good Very Good (No resistance)
- It is important to maintain good oral health habits for your child: Strongly Agree Agree Neither agree/disagree Disagree Strongly Disagree
- How do you Feel when its times to brush your child's teeth: Very Excited Excited Neither Anxious/Excited Anxious Very Anxious
- How does your child reach when it's time to go to the dentist: Very Excited Excited Neither Anxious/Excited Anxious Very Anxious
- How long does it take your child to complete brushing as a task? It doesn't happen 0-1 minutes 1-2 minutes 2-3 minutes 3+ minutes

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Parent Questionnaire at follow-up visits (Form 2)

- Were task strips placed in a spot at home so that they are visible to the child during brushing? Yes/No
- Did you instruct the child to look at the pictures and follow them? Yes/No
- How satisfied are you with the study? Very Satisfied Satisfied Neutral Dissatisfied Very Dissatisfied
- Is there an improvement in brushing habits after the study? Yes/No
- How often do you (Parent/Caretaker) brush per day? 0 1 2 3 4+
- Do you (Parent/Caretaker) floss daily? Yes/No
- How often does your child brush per day? 0 1 2 3 4+
- Does your child floss daily? Yes/No
- How satisfied are you with your child's oral health care habits: Very Satisfied Satisfied Neutral Dissatisfied Very Dissatisfied
- Rate your child's behavior during home brushing routine. Very Poor (Resists brushing and doesn't like to brush) Poor Fair(resists brushing at times) Good Very Good (No resistance)
- It is important to maintain good oral health habits for your child: Strongly Agree Agree Neither agree/disagree Disagree Strongly Disagree
- How do you feel when its times to brush your child's teeth: Very Excited Excited Neither Anxious/Excited Anxious Very Anxious
- How does your child react when it's time to go to the dentist: Very Excited Excited Neither Anxious/Excited Anxious Very Anxious
- How long does it take your child to complete brushing as a task? It doesn't happen 0-1 minutes 1-2 minutes 2-3 minutes 4+ minutes

Results: Pending

DISCUSSION

- Research was preformed at the Nova Southeastern University Mailman Segal Center for Human Development Dental Clinic, which is a specialized early learning center for children diagnosed with Autism, which has children from 18 months to 8 years old.
- The dental clinic is a 1 chair dental clinic that has been optimized for treating patients with ASD, and the patients must be enrolled in one of the educational programs to have complementary access to the dental clinic. Enrolled patients have the opportunity to attend monthly desensitization appointments.
- This very specialized population is able to benefit from continuous ABA therapy that is provided and may not be representative of the typical patient with ASD. Certain patients were already members if the clinic, and familiar with the visual schedule task strips.
- Based on the pervious preliminary results from this continuation study is based upon; it could be expected that the patient temperament toward an oral hygiene routine should improve and can desensitize ASD patients to oral stimulation and provide familiarity of the task strip in an unfamiliar environment.
- It was previously determined that the plaque score improved in the visual schedule group as compared to the control group. It is expected to receive similar results.
- Further studies related to the use of task strips in dentistry can show the potential in teaching dental skills and adapting to new environments.

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